VIRGINIA WILDLIFE

ONE DOLLAR

VIRGINIA WILDLIFE

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Color separations by Lanman Dominion, Richmond
Printing by Western Publishing, Cambridge, Maryland

Virginia Wildlife (ISSN 0042 6792) is published monthly by the Education Division of the Virginia Commission of Game and Inland Fisheries, Box 11104, 4010 West Broad Street, Richmond, Virginia 23230-1104. Second class postage paid at Richmond, Virginia and additional mailing offices.

Subscription department: 804/257-1449. Rates: one year, $5.00; three years, $12.50.

Submission guidelines available upon request. The Commission accepts no responsibility for unsolicited manuscripts, photographs or artwork. Permission to reprint material from *Virginia Wildlife* must be obtained from the writer, artist or photographer as well as the managing editor (804/257-1146).

Observations, conclusions and opinions expressed in *Virginia Wildlife* are those of the author and do not necessarily reflect those of the members or staff of the Commission of Game and Inland Fisheries.

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

Volume 46, Number 1 *January 1985*

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Steve Maslowski

Sunflower seeds are eaten by the majority of birds, including the cardinal.

With millions of people involved, bird feeding is becoming a national pastime—and it's good for the birds, too!

by Emily Mears Grey

Fast Food for Birds

Emily Grey

Autumn olive are among the shrubs beneficial to birds.

Jack R. Colbert

One of the more colorful birds attracted to feeders is the evening grosbeak.

"Birds are indicators of the environment—a sort of ecological litmus paper. Because of their furious pace of living and high rate of metabolism, they reflect subtle changes in the environment rather quickly; they warn us of things out of balance. They send out signals when there is a deterioration of the ecosystem. It is inevitable that the intelligent person who watches birds becomes an environmentalist."

Roger Tory Peterson

Lou Hinshelwood

It is important to find the correct location for feeders, one that is sheltered from the wind.

Are you a bird watcher? Are you a bird feeding enthusiast? Over 60 million Americans feed birds; maintaining artificial feeding stations has become a popular and enjoyable hobby. I find my association with birds, their beauty, song and flight afford me countless hours of pleasure.

I learned a great deal about feeding birds during my graduate research at Virginia Polytechnic Institute and State University, sponsored by the U.S. Fish and Wildlife Service. The results of that research were published in the January 1977 issue of *Virginia Wildlife*. The research, conducted during four winter months, revealed the seed preference of 18 birds species, namely, cardinal, mourning dove, chickadee, tufted titmouse, blue jay, purple finch, evening grosbeak, starling, common grackle, juncos and sparrows.

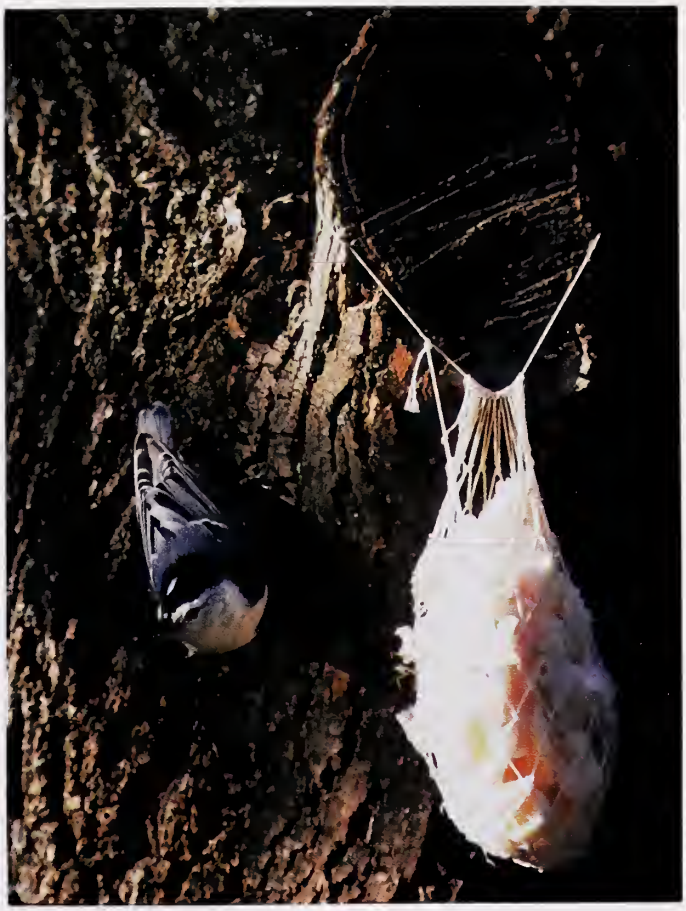
Although feeders attract a variety of birds, some seeds are not eagerly accepted by most species. During the study mentioned, results showed a considerable amount of seeds were wasted, because different birds prefer different foods. The most popular foods are consumed, leaving an accumulation of the less desirable.

The U.S. Fish and Wildlife Service has conducted numerous feeding experiments throughout the country.

Observers from Maine to California reported identical feeding preferences from the same bird species. Recent studies indicate that birds of the same species prefer the same foods, regardless of the location of habitat. Two common bird foods rated as "tops" were black oil-type sunflower and white proso millet. These two kinds of seeds attract almost all seed-eaters. Black oil-type sunflower is eaten by the majority of birds, including the cardinal, blue jay, chickadee, evening grosbeak and purple finch; the mourning dove, sparrows and juncos prefer white proso millet.

Feeding birds is a most rewarding pastime, and requires very little effort and skill. There are simple methods for beginners. A resident with even a small yard

Jack R. Colbert



George Harrison

The flicker (left) and the nuthatch (right) are drawn to suet or fat in the winter.

can enjoy the hobby.

There are countless ways for supplementing a natural food source. Now is an ideal time to let birds know your plans, as cold weather arrives.

One or two feeders will be sufficient to attract birds; the number of stations can gradually be increased if desired. It is important to find the correct location, one sheltered from wind. At my home, feeders are placed on the southern side of the house, adjacent to windows, in order to get a close watch during feeding periods. Birds like to be near shrubbery which provides good cover and a safe hiding place. During the winter months, the most sheltered and protected places are usually on the southern exposure.

All birds have four basic survival requirements: food, water, shelter and nesting areas.

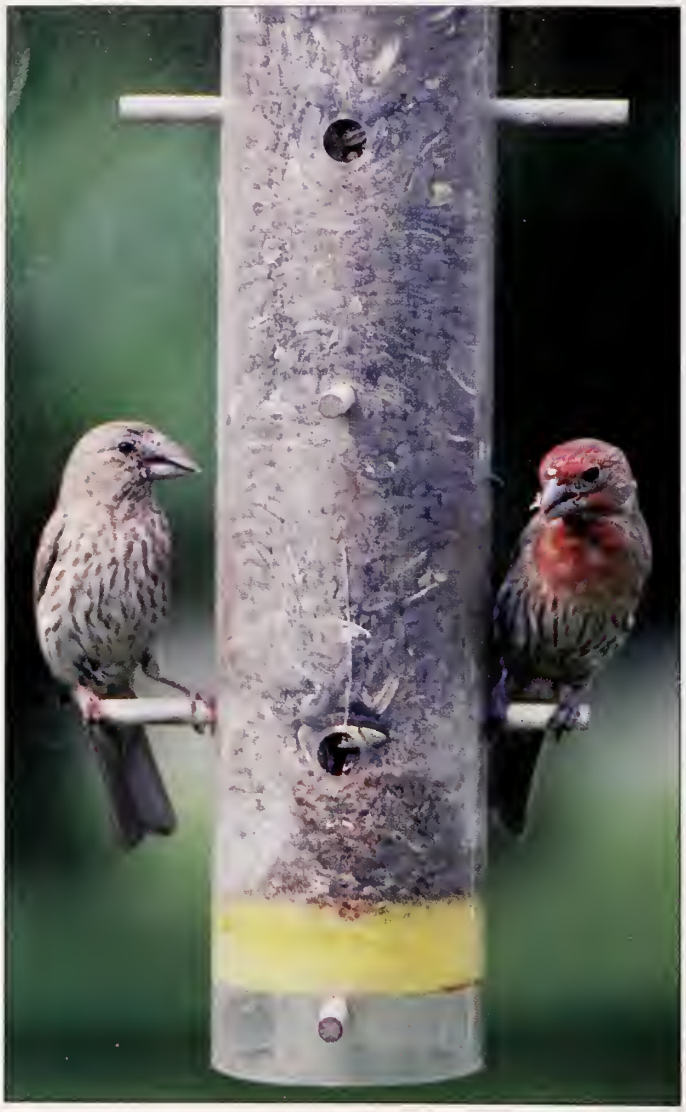
Food

Artificial feeding can be administered year-round; however, it is most important to feed birds during severe winter months when the natural supply is scarce. Once artificial feeding has begun, it is vital to continue it.

Other foods will help to increase the number of species visiting your yard. Woodpeckers, wrens, titmice, chickadees, nuthatches, flickers and creepers are drawn to beef suet or fat during winter. Orioles, mockingbirds, tanagers and thrushes like some fruits (oranges, apples, pears and raisins). Peanut butter mixed with cornmeal or oatmeal is a delicacy to titmice, nuthatches, wrens, creepers, and chickadees. Peanut butter should always be offered in a mixture because birds have difficulty swallowing it alone.

As an aid to digestion birds ingest grit (bits of sand, pebbles, shells) with food. Crushed egg shells, ashes, and charcoal are excellent substitutes and have the additional benefit of supplying calcium and minerals. A simple way to help birds acquire their calcium requirements is to save egg shells, crush them and mix the shell with foods.

The best way to entice birds and keep them in your surroundings is to establish natural plantings which offer



Steve Duvall

Sunflower seeds in a specially designed feeder are attractive to this male and female purple finch.

George Harrison

Emily Grey

(Above) Seed (food), snow (water) and an evergreen (shelter) provide this chickadee with basic survival requirements. Sunflowers of all types provide food for birds.

food. Certain varieties of plants and shrubs are more attractive than others. Among them are dogwood, sumac, spicebush, pyracantha, nandina, elderberry, huckleberry, blackberry, blueberry, bayberry, autumn olive, wisteria, cherry trees, mulberry, sunflower, holly and spruce.

Hummingbirds are especially fond of colorful blooming flowers, particularly red ones. Among those that are useful sources of nutrition for hummingbirds are trumpet vine, fushsia, petunia, phlox, nasturtium, gladiolus, larkspur, delphinium, hollyhock, morning glory, impatiens, and zinnia.

Hummingbirds, equipped with an altogether specialized type of beak and tongue, require a separate category of bird feeding. The initial purpose is to get the birds' attention in order to find your feeder. Feeding begins in most eastern states in May. Commercial feeders are always a bright color usually red, to draw the birds' attention. These birds appear to respond to a sugar-water solution of four to one (80 percent water to 20 percent sugar.) The most important requirement is to keep feeders sanitary. Hummingbirds refuse to frequent neglected feeders; and they are confused when they find them empty. Once these unusually tiny birds locate a feeder, they will keep coming back for more. At my home, we hang a feeder along the edge of the patio within a short distance (approximately four feet) of the kitchen window. The feeder hangs between two baskets of impatiens, a favorite of this bird.

Water

Providing fresh, clean water for birds should not be neglected. A bird bath, which can be a source of enjoyment for almost all birds, should be located in a semi-shady spot, with convenient access to nearby cover. Birds require water for drinking as well as bathing. The winter is no exception. They eagerly search for water to drink; and strangely enough, they take baths to groom their feathers so that they will spread in place and thus provide adequate insulation. Birds need a supply of water during all kinds of weather.

Shelter

Vegetation is the primary factor in attracting birds to

Emily Grey

Emily Grey

The Norway spruce (left) and the dogwood (above) provide food and shelter for a variety of birds.

your yard. Trees, shrubs, flowers, brush piles and artificial shelters protect them from inclement weather and predators.

Evergreens and other conifers are useful to all species during cold weather, because they furnish a safe hiding area and protection. A greater number and variety of birds will always be found where there is a growth of cover.

Nesting Areas

Many of the same trees, shrubs and flowers which furnish shelter can provide nesting areas also. Additional places can be arranged for birds to nest. A Carolina wren will often settle for a hanging gourd or a convenient clothespin bag.

Feeding Techniques

Because bird populations differ from place to place and from time to time, it is impossible to formulate an optimum seed mix. It is more economical to buy separate ingredients than commercial mixes. Many of the seeds included in these mixes are not eaten by birds. Not only can this practice be wasteful and expensive, the uneaten seeds sometime attract pests such as mice and rats.

Birds differ in the type and location of feeders they visit. There are several kinds of commercial feeders available: platform, hopper, tube, satellite, and other designs. Thistle (niger) seed in specially designed feeders is especially attractive to goldfinches and pine siskins.

Feeders can be made from wood and household material, designed in attractive models, and are less expensive. Feeders can be fashioned from plastic containers, bottles and jugs and milk cartons. A low feeding table, three feet from the ground, and about three feet by two feet, is ideal for a variety of visitors; ground-feeding birds as well as aerial-feeding species will dine together. The table should have a ridge or edge around its sides to prevent the loss of seeds.

The table feeder should be cleaned occasionally to keep it sanitary, thus preventing birds from consuming moldy left-over food with an accumulation of droppings. All types of feeders and birds baths require periodic checking for cleanliness.

Bird feeding is one of the most popular hobbies in the country. The number of bird feeders outnumber sportsmen who hunt and fish combined. And the majority of hunters also feed birds! The overwhelming enthusiasm for feeding birds continues to mount; bird feeding is taking place just about everywhere from north to south and east to west. Most certainly, it has become a seasonal hobby and an evergrowing heritage in the United States, as well as Canada. What does this suggest? We are beginning to realize that people desire more than ever to cooperate and work together with nature. □

Tidewater's Treasures

The "Suffolk Lakes" are some of the finest fishing waters in Virginia and there are 19 of them to chose from.

by Mitchell Norman

What would you consider to be a fisherman's dream? A citation striper smacking a surface plug to shatter the silence of a calm, summer evening? Or maybe that record bass that every angler nets in his wildest dreams? How about a 20 minute fight to reel in a 20-pound muskie? Possibly your dream is simply a bucket of big bluegills caught on a popping bug one early, foggy morning. What if you had 19 lakes offering over 4,000 acres of prime and diverse fishing water literally in your back yard? Well, if you happened to live in or near Suffolk, this dream is a reality.

These 19 lakes are known collectively as the "Suffolk Lakes" simply because they are all located in that city. In fact, all 19 lakes are located within a 10 mile radius of downtown Suffolk. However, it is something of a misnomer to use the name "Suffolk Lakes" to apply to all of them since this implies that the city of Suffolk owns all of the lakes. Actually only 12 lakes belong to Suffolk. These are collectively known as the "Lone Star Lakes" and have such interesting individual names as Crystal, Crane, Pumping, Snag, Wahoo, Long, Annette, Finger Lakes, and so on. Of the other seven lakes, four are owned by the city of Portsmouth. These include Kilby, Meade, Cohoon and Speight's Run. The remaining three lakes Prince, Western Branch and Burnt Mills belong to the city of Norfolk.

Actually, it is also incorrect to refer to these waters as lakes since that connotation denotes a natural body of water. There are only two natural lakes in Virginia. These are Lake Drummond in the Dismal Swamp and Mountain Lake in Giles County. All other "lakes," including the ones in Suffolk, are man-made and thus are technically reservoirs.

The "Suffolk Lakes" were built for water supply reservoirs for the southside Hampton Roads area. This is fortuitous in that the respective owners have taken steps to insure the cleanliness of the water. These steps have included the purchase of a large portion of each lake's watershed. These publicly-owned areas are generally covered with mature pine and hardwood forests. This forest cover protects the watershed and lessens soil erosion and other sources of pollution. Consequently, the clarity and purity of the water is high. With much of the shoreline in public ownership, the development of private residences near the lakes has been greatly curtailed. Instead of houses dotting the shoreline, the lakes are generally encompassed by tall trees and underbrush. When boating on the lakes, one has the feeling of being secluded, another plus for the enjoyment of the lakes.

As municipally-owned lakes, boating and fishing on these waters is controlled by the respective owners. To offset the expenses of keeping the lakes open for public use, a permit is required by each city for boating and/or fishing on its lakes. An annual permit may be purchased from each city for year-round use on all of its lakes. Daily permits are also available on the same basis but good only for the day issued. Daily permits are generally sold at each lake. Annual permits are generally sold at municipal offices. For specific details, contact the water department of the city owning the lake.

Lake Kilby

The history of this lake dates back to colonial days when it was used as a millpond. The exact age of the millpond is not known. The dam was enlarged to its present size in 1945 to provide additional water for the rapidly growing population in the Portsmouth area. Kilby is a relatively small lake, 222 acres. The maximum depth is about 23 feet. Kilby overflows directly into Lake Meade.

Lake Kilby is indeed a beautiful one. The upper portion is reminiscent of the traditional cypress swamp in the Deep South. Dense stands of cypress and tupelo gum trees in the lake require one to motor in a zig-zag fashion around the standing timber. Spanish moss and alligators are all that is lacking to make one think of Florida.

Although the lower portion of the lake is open water, the shoreline there is still heavily forested. The water in Lake Kilby is dark from the organic acids contributed by the swamp drainage.

The lake offers excellent fishing for largemouth bass, chain pickerel, bluegill, black crappie and redear sunfish. Other sunfishes caught by anglers include warmouth, flier and pumpkinseed. The bluegill fishery is particularly noteworthy. Bluegill weighing 12 ounces and more are frequently caught. These are generally dark due to the dark swamp water. Local fishermen commonly refer to these as "big, black bream." Northern pike have been stocked in Lake Kilby and are doing well there. These "northerns" grow to the 20-inch creel size limit in only two years, and the survival rate of the stocked fish has been excellent. More than one Lake Kilby fisherman has been pleasantly surprised to catch a northern pike instead of a chain pickerel or bass.

Boat rentals and fishing permits are available at the Lake Kilby Filtration Plant on Route 58 in Suffolk. A concrete ramp provides boating access. Some refreshments are available at the fishing permit station.

Lake Cohoon

One of the earliest Portsmouth water supply lakes, Lake Cohoon was impounded in 1913 on the Cohoon Creek and Eley Swamp drainages of the Nansemond River. It is a medium-size lake for southeast Virginia and encompasses 510 acres. The maximum depth is 32 feet. Numerous coves extend from the lake basin and add considerably to the length of shoreline. These numerous coves also add to the quality of the fishery in Lake Cohoon.

Principal game fishes include largemouth bass, chain pickerel, bluegill, redear, pumpkinseed and black crappie. Warmouth and flier are occasionally caught. Lake Cohoon is known for good all-around fishing, but is not outstanding for any one fish.

Public access to the lake is at the Cohoon-Meade Fishing Station located off Pitchkettle Road (Rt. 604), west of Suffolk. A concession there provides bait, tackle and refreshments and, of course, fishing advice. A concrete boat ramp and ample parking serve the boating public. In addition, the area around the fishing station provides a beautiful place for a family picnic. The grounds are always well-kept and the tall, straight pine trees and ornamental shrubs add to the natural beauty of the place. Shore fishing is permitted only in the area of the fishing station. Fishing permits, either on a daily or annual basis, are available at the fishing station. Boat rentals are also available.

Lake Meade

The most recently built and largest of the Portsmouth-owned lakes, Lake Meade was impounded in 1960 to encompass 512 acres. Meade forms the center of a horseshoe-shaped series of lakes with Kilby and Speight's Run on one arm and Cohoon on the other.

The principal native game fishes are largemouth bass, bluegill, pumpkinseed and black crappie. Sunfishes such as warmouth and flier are far less abundant than in Lakes Cohoon and Kilby. These two lakes contain a lot of swamp drainage, which is prime habitat for warmouth and flier. Chain pickerel and white perch were abundant during the early years of Lake Meade's history. But these fishes have declined in abundance during past few

Jon boats are just right for the wooded waters of Lake Kilby.

Spike Knuth

years. Striped bass have been stocked annually in Lake Meade since 1971. The survival and growth rate of stripers in Meade has been most satisfactory, but relatively few stripers have been creeled by anglers. The record year for number of striped bass citations from Meade was 1981 when six were reported. Lake Meade supports a good fishery for both white and channel catfish. Several citation channel catfish are reported each year. The bluegill and crappie fishing in Meade is satisfactory, but the fish are usually slightly smaller thatn those caught in Kilby or Cohoon.

Public access is at the Lake Kilby Filtration Plant and the the Cohoon-Meade Fishing Station. Shore fishing is permitted only in the area of the fishing stations. Boat rentals and a concrete boat ramp are available at each fishing station.

Speight's Run

This water supply lake was built in 1958 and named after the creek on which it was impounded. With an area of 197 acres, it is the smallest of the Portsmouth-owned lakes. It has a maximum depth of about 20 feet. The lake is bisected by Route 645 which prevents boat passage between the two sections. Speight's Run overflows directly into Lake Kilby.

Major game fishes in Speight's Run include largemouth bass, chain pickerel, bluegill and black crappie. Several other sunfishes are also present but not abundant. The fish population was last sampled in 1981 and found to be well balanced except for an over-abundance of intermediate-size bass. This is probably due in large part to the lack of fishing pressure to "crop off" the bass as they become creel size.

Facilities are limited to a dirt-gravel boat ramp and small parking area on Route 646 south of Route 58 in Suffolk. There are no boat rentals or a concession on this lake. Shore fishing is not permitted. Due to the limited public use facilities, Speight's Run is only lightly fished and a good place to go if one wants to "get away from it all."

Lake Prince

Lake Prince was the first Norfolk water supply lake in the Suffolk area. It was impounded in 1921 on the Ennis Pond and Carbell Swamp drainages of the Nasemond River. The lake covers 777 acres to a maximum depth of 40 feet. The lake has many long, narrow coves extending from the main body of the lake. The entire shoreline of this beautiful lake is heavily wooded and very few houses are visible from the water.

Principal native game fishes are largemouth bass, chain pickerel, bluegill and black crappie. Other sunfishes, including warmouth, redbreast, pumpkinseed, redear and flier, are also present. Striped bass have been introduced annually since 1971 to provide a trophy fishery for an exotic "super predator" fish. The lake's reputation for striper fishing increased greatly in 1981 when 47 citation stripers were recorded. This was the third highest number of citations for striped bass of any lake in Virginia. The largest striped bass caught to date weighed 34 pounds and was taken in 1982.

With the variety of fishes present, Lake Prince offers excellent year-round fishing. Winter is no slack time for fishing Lake Prince because chain pickerel and striped bass can be readily caught then. Largemouth bass and crappie fishing is generally best in the spring, followed by bream fishing in summer months. By fall, the bass, striper and crapppie fishing will pick up.

Public access is at Lake Prince Fishing Station on Route 604, two miles north of Highway 460 west of Suffolk. A concession provides bait, tackle, snacks, boat rentals and daily fishing permits for boat owners. Shore fishing is permitted only in the area of the concession. Boat ramp and parking areas are present at the fishing station.

Lake Burnt Mills

This Norfolk-owned lake was built in 1941 to meet the water supply demand generated by the greatly increased population and military activity in the Norfolk area during World War II. The dam was constructed across the Great Swamp drainage of the Western Branch of the Nansemond River. Burnt Mills has a surface area of 600 acres.

The principal game fishes in Burnt Mills are largemouth bass, chain pickerel, black crappie, yellow perch and bluegill. The lake is probably best known for its bluegill, yellow perch and pickerel fishing. Burnt Mills has long been synonymous with big bream. Local anglers are fond of telling stories about all the big bream they have caught in Burnt Mills. However, more citations are issued for chain pickerel and yellow perch than any other fish in Burnt Mills. For example, a total of 17 pickerel and 21 yellow perch citations were awarded in 1982 for Burnt Mills. The high quality and diversity of the Burnt Mills fishery is exemplified by the 1982 citation list. In addition to all of the pickerel and yellow perch citations that year, citations were also issued for largemouth bass, sunfish, bowfin and black crappie.

The largest bass known to come from Burnt Mills weighed 11 pounds. This "lunker" bass was captured in a fish population sampling by Game and Fish Commission biologists. Most fishermen will be pleased to learn that this bass was released "alive and well" back into the lake for some lucky angler to catch.

Public use facilities are limited to a dirt boat ramp located about a half-mile north of Route 603 near Everetts and approximately three miles west of Chuckatuck on Route 10. No boat rentals are available; fishermen must bring their own boats. Shore fishing is not permitted. Boat owners may purchase a daily permit at the Lake Prince Fishing Station.

Western Branch Reservoir

This is the youngest and largest of the Norfolk water supply lakes in Suffolk. It was built in 1962 and covers an area of 1,579 acres. With a maximum depth of 51 feet, it is a rather deep lake for the relatively flat, coastal plain of Virginia. The lake takes its name after its location. Impounded on the Western Branch of the Nansemond River, it is frequently referred to as the "Branch" by local anglers.

The principal native game fishes are largemouth bass, bluegill, pumpkinseed, redbreast and black crappie. Less abundant sunfishes are redear, flier and warmouth. Chain pickerel are occasionally taken by anglers. Striped bass have been stocked annually in Western Branch since 1975 and walleye were stocked annually from 1976 through 1982. Both of these stocked "super predator"

Lou Hinshelwood

Game Commission biologists using gill nets sample fish in Lake Cohoon.

fishes are doing well in the Branch. In particular, the striped bass have caught fishermen's attention. Many Western Branch anglers fish specifically for striped bass. The largest striper known to be taken from the Branch was a 19-pound, 10-ounce lunker measuring 36 inches and caught in 1982. Northern pike and muskellunge have also been stocked in the Branch. Although the northern pike stockings do not seem to have taken root there, the muskie have survived and are growing fast. Since 1980, five citation muskies have been creeled from the Branch.

Boating access is presently limited to one site located off Route 603 near Everetts and approximately three miles west of Chuckatuck. This site consists of a dirt-gravel boat ramp and ample parking. Plans are underway to construct a new boat ramp and a concession building at another location on the lake. At the present time, rental boats are not available and shore fishing is prohibited.

Lone Star Lakes

These lakes are a series of 12 "borrow pits" created by Lone Star Industries when mining for marl from the 1920's until the early 1970's. The pits have long since filled with water and are presently used as a water supply source for the city of Suffolk, which purchased the lakes and 1,172 acres of land in 1975. The city has developed the property into an outdoor recreation area with nature trails and picnic areas in addition to boating and fishing.

The individual lakes range in size from a few acres to 49 acres and total 159 acres. Most of the lakes are interconnnected with a canal and/or culvert system for the exchange of water.

As are most borrow pit lakes, these Lone Star Lakes are quite deep and the shoreline slopes steeply. This not only creates a dangerous condition for users of the park but also impedes fish production. Most fishes in this area require shallow water along the shoreline for spawning. In addition to improving spawning success, shallow areas are necessary for the existence of many aquatic insects which are fed upon by fishes. Therefore, the steeply sloping shoreline of the Lone Star Lakes prevents the fishery from developing to its fullest potential.

Major native game fishes in the Lone Star Lakes are largemouth bass, chain pickerel, bluegill and black crappie. Northern pike and redear sunfish have been stocked. Both seem to be doing well in these lakes.

Boat ramps are located on several of the lakes. Rental boats are not available and shore fishing is prohibited.

So there you have it: 19 lakes totaling more than 4,000 acres, all concentrated in Suffolk, high quality fisheries producing many citations each year. They are very diverse fisheries including stocked exotics such as walleye, striped bass, northern pike and muskie in addition to the native fishes. The "Suffolk Lakes" are a fisherman's dream. □

Bass flies tied especially for Virginia waters.

Hooked!

Tying that first fly can be a prelude to a lifetime of fishing pleasure.

story & photos by Harry Murray

Fly tying, the art of constructing artificial flies for fishing, is growing rapidly in popularity. Each winter, when I conduct my fly fishing schools, this is one of the most popular topics. My students range from eight to 80 and come from all walks of life, but they have one thing in common. They all exhibit a tremendous amount of pride and excitement in the first fly they tie.

Most anglers get into fly tying because they feel it is a hobby which will complement their summer fishing and is an activity which can be performed during the off season. Some have heard an angling friend speak with great pride of making a good catch of brown trout on a small dry fly he has tied himself, or of a particularly nice smallmouth bass which fell to his own version of a deer hair moth.

There is much to be said about designing one's own flies—not just to be doing something different, but actually adapting a specific fly tying technique to fill a known need. Something as trivial as tying a productive nymph, such as a Hare's Ear in three different weights in order to better cover the fishing depth demands, will often make the difference between making a good catch and just having a so-so day. Even well-tied Hare's Ear nymphs purchased from a good professional tyer will be of one weight only in a given size. These will work fine under normal conditions but in high, fast water, we need extra weight built into the fly in order to get the needed sink rate. Conversly, during the low water periods of summer the standard weight nymphs will often sink too quickly and hang on the bottom before the fish get a chance at them. In this case an unweighted or only slightly weighted nymph is needed. Sounds simple, but you are going to have to tie them yourself to get them this way.

In addition to being able to alter existing fly patterns to meet one's specific needs, we can design new and entirely different flies for certain fishing conditions. New fly designing requires experimenting and testing, and not all of our creations will be graded favorably by the fish.

As a young boy fishing the Shenandoah River for smallmouth bass, I was well aware of the almost magical powers hellgrammites had on those bass. Threading a live hellgrammite onto a light wire hook and tossing it into a good hole often brought a good, solid strike before it could reach the bottom. Those smallmouth could not leave it alone. It was only logical that when I started fly fishing I would purchase some of the professionally tied hellgrammites then on the market to try on these bass. I have never been so disappointed with anything in my life. Many of them looked good to me, but they were far from convincing to the bass. In fact I would say most of the patterns were total failures.

This was the major event which led me to tying and designing my own flies. It would be nice if I could say that the first artificial hellgrammite which I popped out of my fly tying vice was an instant success, but this was far from the case. I actually tried dozens of different style ties over eight years before coming up with what I was seeking.

I found that I, in my early attempts, had fallen into the same trap which had snared those other fly tyers. We had all been producing ties which looked like hellgrammites to us and had totally overlooked how a real hellgrammite looked and acted from the fish's point of view. Our flies, though looking like hellgrammites, were too rigid and lifeless in the water to be appealing to the bass. By incorporating some softer and more flexible materials into the fly, I was able to come up with a very productive artificial hellgrammite.

The effort was well worth while because this one fly has produced thousands of good smallmouth for my friends and me over the past four years. Had I never gone into fly tying I suppose I could have used some other pattern but I'm sure I'm many bass ahead because I did.

The expense of purchasing flies is

The author tying a hellgrammite.

This is a list of basic tools and materials for beginners. The tools are the same for tying either trout or bass flies, but the materials are different.

Basic Fly Tying Material

	Trout	Bass
(1) Hooks		
	dry: 94840-12, 14, 16, 18 nymph: 3906B-10, 12, 14 streamer: 9672-8, 10, 12	dry: 94840-4, 6, 8 nymph: 9671-4, 6, 8 streamer: 9672-4, 6, 8 popper: 33903-1, 4, 8
(2) Hackle		
	dry: blue dun, brown, grizzly, light ginger wet: blue dun, brown saddle: grizzly, black	dry: brown wet: blue dun, brown saddle: black, brown, grizzly, blue dun, yellow, green, red, olive
(3) Tail		
	bucktail—black, white, brown; calftail—yellow, white, olive; moosehair	bucktail—yellow, red, black olive, green, white
(4) Wing Material		
	mallard and wood duck flank; marabou—black, white, olive; mot. turkey quill; elk hair; deer hair—black & natural	white calf tail; elk hair; ostrich herl—black & olive; marabou—black & white
(5) Body Material		
	hare's ear; muskrat; peacock tail; assorted chenille and floss; polydubbing—black, olive, tan	assorted chenille; hare's ear tanned rabbit—black & white; deer hair—natural, black, green, yellow, red, white; muskrat
(6) Ribbing		
	flat tinsel—gold & silver oval tinsel—gold & silver wire tinsel—gold & silver	flat tinsel—gold & silver oval tinsel—gold & silver wire tinsel—gold & silver
(7) Thread		
	6/0 H.H. prewaxed nylon—black, brown, olive, tan; 3/0 prewaxed monocord—black, grey, tan	size A prewaxed monocord—yellow, black; 3/0 prewaxed monocord—black, brown, tan, yellow
(8) Cement		
	head cement; vinyl cement; head varnish	head cement; head varnish; cork enamel
(9) Miscellaneous		
	front edge goose quill—black, brown; thompson wax; lead wire	doll eyes; rubber legs—black & white; popper corks; flashabou—gold & silver; thompson wax; lead wire
(10) Tools		
	vise, bobbin, scissors, hackle pliers, dubbing needle	vise, bobbin, scissors, hackle pliers, dubbing needle

Good flies cost between $1.25 and $3 depending on the pattern. Most of that price is in the time required to tie a fly well.

another reason to get into fly tying. Good flies now cost between $1.25 and $3.00 each, depending on the pattern. As a professional fly tyer, I can assure you that most of that price is in the time which is required to tie a fly well. Even when using the very best materials, one can tie his own flies for 10¢ to 15¢ each if the time factor is not included.

Another side of the economic aspect which should be considered is the possibility of selling your flies once a fair degree of proficiency is attained. This may sound a little far off to the beginner, but I had one boy in my tying class at Lord Fairfax College several years ago who, after only 30 hours of instruction, was tying flies well enough to help considerably in offsetting his college expenses. He was producing top-rate flies even down as small as size 24's. I do not know any top-line professional fly tyer who can tie all of the flies he has demands for. Before passing this off as the perfect rose garden, I must hasten to say that neither have I ever known a top professional fly tyer who became rich. One professional guide with whom I fish the Yellowstone River each year goes so far as to say, "The better the tyer, the less money he makes." I don't know about that, but I definitely would not advise abandoning a good career or promising college education to become a professional fly tyer.

On the other hand I strongly recommend that any serious angler at least consider tying his own flies.

There are several different ways to get started in fly tying. Several colleges in Virginia are offering this either in the physical education department or as continuing education classes. Some sportsmen's clubs offer short courses in fly tying throughout the state. As with my fly shop classes and college courses, I feel most of these would be open to any age group but some colleges will not allow students below high school seniors, so check in your specific area. If you are unable to locate classes being offered in your area, it is quite easy to learn from books, as I did. You may need help in selecting the tools and materials needed to get started, but the outline included should simplify this considerably.

Whichever form of instruction you choose, I'm sure you'll find the rewards worthwhile. Just wait until that first trout enthusiastically sucks under one of your own dry flies just as if it were the real thing. . .you'll see. □

Cold Weather Paddling

No matter how well you know a creek or river, you will never know it completely until you experience it in winter.

story & photos by Curtis Badger

Winter canoeing is a completely different sport with its own rewards, pleasures and dangers.

(Opposite) The red-tail hawk is frequently spotted along creeks and rivers.

Unlike bears, marmots, and most reptiles, canoes do not hibernate during the winter. At least they are not supposed to.

A lot of otherwise sensible people force their boats into dormancy as soon as the first fall chill strikes. Motorboats are trailered, winterized, and tucked away in the garage for a long winter's nap. Canoes are washed, waxed, and laid to rest until spring rekindles the paddling urge.

I don't believe that boats, especially canoes, are intended to have a dormant season, and I have to admit that I enjoy winter canoeing at least as much as the summer variety. Winter canoeing is a completely different sport, one that has its own particular rewards, its own pleasures and dangers.

No matter how well you know a creek or river, you will never know it completely until you experience it in winter. Certainly it's the same creek you canoed in August—the turns and bends are in the same places, the farms that line the banks are still there—but in many important respects it is not the same. The lush green growth of August has disappeared, leaving the woods open and clear. The plants of the creek-head, the pickerelweed and arums, have long since withered. The summer birds have gone, and the creek is populated by dapper little hooded mergansers, mallards and black ducks. The ospreys' nest at the top of a huge dead pine is vacant, and will remain so until March when the male bird returns to his summer home, followed in a few days by his mate.

The mosquitoes and biting flies that can plague summer canoe trips are spending the winter as larva,

burrowed into the insulating, warming mud of the creek bottom. And because most of the world's supply of motorboats is stashed away in garages, you can have the creek to yourself, without the annoying roar of an outboard frightening off all the wild critters for a few square miles.

I live on Virginia's Eastern Shore, at the headwaters of a narrow body of water called Warehouse Prong, so named because of the tobacco warehouse that did business there in the 18th Century. Warehouse Prong is a narrow, shallow stream that slices through brackish marsh and marks the northern boundary of our property. It's a perfect put-in spot for winter canoe trips. Tall pines line the stream, protecting it from wind gusts, and even as the creek widens, the trees provide a measure of security. The creek follows a zig-zag pattern through the marsh and pine woods, so even if you have to paddle into the wind for a few minutes, as soon as you round a couple of bends the wind will be at your back again.

Although I've canoed Warehouse Prong dozens of times, my favorite trips are the winter ones: the morning trips on crisp, clear days in January and Febraury when the sun is low on the horizon, casting warm orange rays across frost-covered spider webs that lace the tops of the cordgrass. In winter I have the creek to myself. In dozens of trips on Warehouse Prong over the past three years, I've met a motorboat only once. I've never met another canoe.

Warehouse Prong spirals through marsh and pinwoods and enters Pungoteague Creek, which flows past farms and historic homes for several miles until it empties into the Chesapeake Bay. In winter it is best to avoid the wide, vulnerable waters where the creek enters the Bay. Instead, it is best to paddle a generally eastward course toward Warehouse Prong and the headwaters of the creek.

With the exception of a couple of homes, Warehouse Prong is undeveloped; it seems as wild and unspoiled as when the Indians paddled up the creek centuries ago, hunting for muskrats in the marshes or fishing for crabs in the shallow tidal waters. Of course, the creek today is not as the Indians knew it. The first generation forests have been cut and the land has been cultivated. Now and then a beer can or a styrofoam hamburger container will become lodged in the cordgrass, providing graphic

(Above) Cordgrass in winter often wears a coat of snow. (Right) No matter how well you know a creek or river, you will never know it completely until you experience it in winter.

"My favorite trips are the winter ones: the morning trips on crisp, clear days in January and February when the sun is low on the horizon, casting warm orange rays across frost-covered spider webs that lace the tops of the cordgrass."

(Opposite) The great horned owl is sometimes seen in the early morning or at evening. (Far right) Great blue herons are year-round residents of Virginia.

evidence that we live in a disposable age.

Still, I like to imagine that in winters past the Indians paddled these waters just as I do today, gliding slowly around bends, hoping to surprise a flock of black ducks that even today come to this remote creek to spend the winter. In small, shallow ponds created by muskrat eat-outs, they floated decoys made of reeds and feathers, and they hid motionless in nearby elder thickets, waiting with tightly strung bows for the morning flights of blacks, mallards, and canvasbacks.

The ducks still come to these places in winter, although not in the numbers that the Indians knew centuries ago, or, for that matter, in numbers my father knew when he hunted these marshes 30 years ago. Still, on a cold February morning, if you paddle quietly and stay near the cedars that line the banks, you can float to within shotgun range of small rafts of black ducks. What a sight it must have been years ago when hunters floated in sink-boxes toward rafts of hundreds of ducks, aiming their deadly, large-bore punt guns at the heaviest concentrations. Little could they have known two generations ago that the ducks which came in numbers so great they looked like clouds in the sky could today be pushed to the point of endangerment. Although the punt guns and market hunters helped to decimate the population, other forces were more subtle, more perverse. In an effort to "conquer" nature, wetlands were drained at alarming rates in the 19th and early 20th centuries, reducing breeding habitat in the north and destroying important wintering grounds such as Virginia's coastal wetlands. Now there are too few places like Warehouse Prong, too few places for ducks and occasional canoeists.

One of the great revelations of cold weather canoeing is that in winter the water is crystal clear. The microscopic plankton and other organisms which cloud the water in summer have died, and in shallow water on a calm day you can easily see the bottom. The effect is one of weightlessness, of floating though space, suspended just a few feet above the creek bottom.

I have a fantasy that one day I will find something remarkable hidden among the rotting leaves and grass of the creek bottom. The Indians hunted extensively along the creek here, and arrowheads and stone tools are frequently found in cultivated fields nearby after hard rains. The tides could just as easily scour the sediment from some artifact that has been hidden on the botton of Warehouse Prong. There is always hope.

The most conspicuous commodity on winter canoe trips is wildlife. On quiet rivers and in the remote headwaters of creeks, the winter animals are busy, and nothing can put you among them as quietly and unobtrusively as a canoe. The secret is to paddle slowly, to often remain motionless and let the current carry you. It is motion, the movement of arm and paddle, that frightens animals, so if you want to see wild things, learn to relax, to let the current carry you around bends. Pull into a small cove and sit quietly for a few minutes. You will soon notice the movement of birds in the nearby brush, a squirrel will probably appear in an oak tree, and you might see a muskrat or tooter slide from the bank into the stream.

Ducks, like this shovler, are often easy targets for your camera in winter.

Muskrat trails are easy to spot among the shoots of cordgrass, and their dens are easily found in winter, when the tall grasses have died off and left the dens exposed. Look for a mound of cordgrass, perhaps held together by mud. The surrounding grass will be shorn, and there will be several entrances to the den. Underwater entrances may be visible at low tides. You won't have to stake out the den for too many minutes before you'll begin to see the animals.

Most stretches of quiet water will be home for waterfowl during the winter, and it takes patience and care to paddle to within good viewing distance. You should be able to see wood ducks and teal early in the season, and most of Virginia's waters should provide glimpses of black ducks, mallards, pintail, gadwall, and widgeon. Diving ducks such as canvasbacks, scaup, goldeneye, bufflehead, and mergansers are known as "bay" ducks, but they often are found on lakes and rivers.

The best place to look for "dabblers" (black ducks, pintails, mallards, etc.) is on shallow ponds or along shallow, protected creeks and rivers. Black ducks are among the wariest of ducks, and it is difficult to approach them. An alternative is to let the ducks come to you. A canoe can easily be hidden in tall cordgrass, which can act as a natural blind. You might even want to bring along a few decoys to help attract passing waterfowl.

The best time to see wildlife is early morning and late afternoon. Birds and animals seem to be most active during these periods, although with a canoe it is fairly easy to approach a flock of snoozing ducks at midday.

But ducks are by no means the only birds you should be able to spot on winter canoe trips. Virginia's rivers and coastal marshes are home for many wading birds,as well as gulls,terns, hawks, and land birds. Great blue herons are year-round residents of Virginia, and can often be seen fishing small streams or shallow areas of creeks and rivers. The little blue heron, Louisiana heron, and black-crowned night heron are residents of Virginia's coastal waters year-round.

The clapper rail is abundant on the Virginia coast, but it is more seldom seen than heard. This coastal "marsh hen" is noted for its loud, raucous call.

The king rail is similar to the clapper, but it is slightly larger and prefers brackish or freshwater marshes. The Virginia rail is about the size of a meadowlark and also prefers brackish marshes. All three rails are secretive and are rarely seen. The clapper rail is a popular game bird on the Eastern Shore and it is hunted when high fall tides cover its hiding places in the cordgrass.

Plovers, sandpipers, dunlin, and greater and lesser yellowlegs are also common in Virginia coastal areas in winter, but they are rarely seen in the western part of the state. Along the beaches and tidal flats you can see sanderlings chasing retreating waves. In winter these birds wear their grey plumage: light grey below, medium grey above, and dark grey shoulder marks.

Creeks and rivers are also good places to spot hawks. The northern harrier, or marsh hawk, can be seen patrolling open marshes and fields. It is a slim bird with a white rump, and it glides slowly at low altitudes. The redtail is another frequently spotted hawk. It is a large bird with wide wings, and the characteristic rust coloring on the upper side of the tail can be seen when the bird is maneuvering. The great horned owl is as large as the redtail hawk and can sometimes be seen along creeks and streams in the early morning or at evening.

Winter is also a good time to find nests. With the foliage of summer gone, many nests are exposed and are easily spotted. Birds such as redwing blackbirds build in thickets and shrubs along streams, and their nests are particularly easy to find. Locating nests is a good way to discover the redwing's "territory," which in the spring nesting season he defends with enthusiasm.

Winter canoeing differs from summer paddling in many respects, and the availability of wildlife is an important one. Another difference is the degree of risk involved in winter canoeing. With the pleasures of cold-weather paddling come inevitable dangers. A spill that can be refreshing during an August heat wave can be deadly in January or February. It is not a sport for the inexperienced paddler, or the incautious one. Winter canoeing can be done safely, but more precautions are called for than in warm weather. Be sure you familiarize yourself with the accompanying winter paddling guide before you set out. □

A Winter Paddling Guide

Have you ever noticed that experienced canoeists always wear their PFD's (personal flotation devices), while it is the inexperienced paddler who either leaves it at home or uses it as a seat cushion? I have a friend in Florida who is a canoeing guide. He has been through numerous survival schools and has completed most of the Red Cross advanced swimming and lifesaving courses. He is an expert swimmer and an experienced and capable paddler. Wearing his flotation vest is something he does automatically, no matter how short the trip or how calm the water. It's a matter of habit, and of common sense.

Inexperienced paddlers somehow feel that it is uncool to be seen in a PFD. A canoeist who has been around long enough has probably had his life saved by his PFD, and wearing it is not a matter of fashion, it is a matter of survival.

It is especially important to wear an approved PFD when canoeing in winter. No matter how good a swimmer you are, the numbing effect of cold water can leave you helpless. Invest in a good PFD, and make sure it is approved for your weight. Most outdoor supply shops have vests designed for canoeing; they are cut so they won't ride up on you when you're paddling, and they are very comfortable.

It's not a good idea to canoe alone, although I have to admit I've done it myself many times. A second boat can be a lifesaver in the event of an accident.

Winter is not the time for canoeing lessons. If you are an inexperienced paddler, wait until summer to learn your boat's capabilities. Take it to the beach on a hot day and purposely swamp it. Learn what it takes to make it go over.

There is no substitute for common sense. Keep the weight centered in the boat, keep the center of gravity low. Paddle from a kneeling position instead of sitting on the seat. Knee pads are available at hardware stores and at most canoeing outfitters. Never use your PFD as a cushion. If you should swamp, stay with the canoe and swim it to shore. Avoid alcohol. Bring a thermos of hot coffee or tea. Save the beer for later.

Pick your canoeing areas carefully. Avoid wide stretches of water that are vulnerable to wind gusts. Avoid rough water. Anyway, you can see more wildlife in the sheltered creekheads and streams than in open water.

Take along a survival kit containing dry clothes, waterproof matches, dry kindling, and a light weight "space" blanket. Put these items in a waterproof bag and lash it to the thwarts. If you don't have a waterproof bag, use two heavy-duty garbage bags and seal both tightly.

Know the symptoms and treatment of hypothermia. It's the leading killer of outdoor recreationists, and it is a constant danger on winter canoe trips. Surprisingly, most cases of hypothermia occur at rather mild temperatures, 30 to 50 degrees. At these temperatures people are not prepared for cold; when it gets below freezing people become more cautious. Water temperature of 50 degrees or colder can be deadly, and 50-degree air temperature can produce hypothermia if combined with wind and water.

If you get wet, the water and wind produce a refrigerator effect, drawing heat from your body. As the body temperature drops, the brain is quickly affected and the symptoms of hypothermia begin. Preliminary symptoms are uncontrolled shivering, incoherence or irregular speech, and hyperactivity followed by muscle weakness and exhaustion. Victims of hypothermia often deny being cold.

Hypothermia victims should be gotten out of wet clothes as soon as possible, hence the need for carrying a change of clothes in a waterproof bag. Rub the limbs of the victim vigorously, and if a sleeping bag is available, place the victim in the bag with one or more people. Skin-to-skin contact is the best treatment. Keep the victim alert, talking, and get the victim to drink warm liquids. □

A hollow stump provides some protection for the mink.

Mink Tales

Though cute and cuddly looking, the mink is an efficient predator who easily takes what she needs from the woods and streams of the Commonwealth.

by Terry Kerns
photos by Leonard Lee Rue

The mink can dive under water for its prey as easily as it can climb after it.

The creek was only about 10 feet wide, but its overgrown banks and willow thickets provided scores of rotted logs, piles of rock, and uprooted trees for the mink to search for food. The female mink moved swiftly, her nose constantly sniffed the air for some scent of prey. Approximately two feet long with a six-inch tail, the mink resembled a long, thin rat with a furry tail. While she weaved in and out, over and under the brush on the bank, she did not hesitate to plunge into the stream itself. She swam with speed and grace, diving beneath the surface before climbing on a rock and shaking the water from her umber-brown coat.

It was in a shallow pool of water that she found her first prey of the day, a large crawfish that failed to hide quickly enough. Normally the mink would have eaten the crustacean on the spot. She could not afford that luxury now. Instead, she bounded back toward her den where hungry young were just beginning to eat the meat she brought them.

Her den was a long four-inch wide tunnel beneath the gnarled roots of an ancient sycamore tree that anchored a section of the stream bank. At the farthest end of the tunnel she had lined a larger nest area with dried grasses and leaves. She had selected the den in February shortly after mating with a male that had suddenly appeared in her territory on his annual spring mating travels. The affair had been brief. Shortly after mating, the male had continued his search for other females and left her to raise the young alone.

They had been born about six weeks, but it could have been as long as 10 weeks, after the mating. At birth they were blind, naked and about the size and shape of a man's little finger. She had given birth to five young this year, although her litter size could have ranged from two to 10. She bore only one litter a year and would spend months in care of the young. She had nursed them for about a month. Then when their eyes opened and they were covered with soft, fine fur, she had carried fresh kills back to the den for them to eat.

The mink was a deadly hunter with an appetite for almost anything that moved. Generally she did most of her hunting at night, but she also hunted during the day, especially when she had young to care for. Although she weighed only about a pound and a half and her mate had weighed only two pounds, both were capable of killing and dragging away animals that weighed twice as much. While crawfish made up a regular and considerable portion of the mink's diet, muskrat, rabbit, fish, turtle eggs, frogs and mice were a normal part of the menu.

She dived under water in pursuit of prey as easily as

Always alert, this mink rises to the sound of danger.

she climbed a tree after it. While she was not particularly fast, her agility and keen sense of smell served her well when hunting on land. A number of nesting woodpeckers and other animals had learned too late that she could slip through holes that seemed far too small for her body.

The female's concern was to get enough food each day for her young and herself, a time-consuming job, but it would end soon. At six to eight weeks of age, she would lead her young from the den and begin teaching them to hunt their own food. She would travel with them, leading them on wide-ranging forays along the creek and the other small streams that fed into it.

In addition to her nesting den, she, like others of her species, had several other dens scattered along her normal route. By midsummer, she and her young might travel for several days at a time, sleeping in the other dens before they returned to the area she now hunted. At that time, the young would begin drifting off on their own.

While the mink fed on numerous creatures, she had few enemies. Larger predators, including domesticated dogs, seldom posed a serious threat. The mink's ability to swim, climb and slip through small holes generally allowed it to escape. However, one deadly enemy did haunt the mink in some areas of its range. The great horned owl not only ruled the nighttime sky but relished a meal of fresh mink. It could not only spot the mink during its nocturnal jaunts but was able to attack silently and without warning from above.

Trappers also take a number of mink each year. The mink's natural habits make it vulnerable to those who take the time to become familiar with the territory the mink roamed.

The mink is a creature of habit. Trappers who find an area where there are mink tracks can feel certain that the mink will return on a regular basis to the same area. However, male mink wander over long, meandering routes sometimes spending weeks making the circuit. Patience and carefully placed traps are required to catch these elusive animals. A certain amount of luck is also a necessary ingredient.

In many instances, simply placing a trap in a hole in a streambank regularly hunted by the mink or beneath the exposed roots of a tree at the water's edge is effective. The set should be staked to allow the animal to reach deeper water to ensure drowning when possible.

Most trappers use number 2 traps. Those who prefer to bait their traps often use pieces of muskrat, chicken or fish to lure the mink. Rather than placing such baited

Crawfish from this stream is a regular part of this mink's diet.

traps in the open, trappers tend to hide such set in shallow holes in the stream bank or beneath upturned tree roots, depending upon the mink's curiosity to lead it to the lure.

In most areas, the mink has little to fear from trappers since few are even aware that the mink inhabit the area. Although it lacks a natural wariness that would make it difficult to catch, the fact that it is so seldom seen prevents it from having much hunting pressure in most areas. Even those who settled in Virginia when the countryside was wilderness seldom saw the mink.

Captain John Smith, writing in 1612, had made the first-known reference to mink in Virginia: "*Martins, Powlecats, Wessels and Minkes we know they have, because we have seen many of their skinnes, though very seldom any of them alive.*"

To the female mink, the fact that trapping season would come with the winter snows or that Captain Smith had made historical note of her kind meant nothing. Today the trees were spring green and a nest of hungry young depended upon her for their food. She set out along the stream once more, her nose testing the air, her eyes darting from bank to stream to bank again, as she bounded off to find another crayfish, a young rabbit or whatever else might chance to cross her path. □

A mink's tracks somewhat resemble those of a house cat although smaller and more pointed. The mink's tracks also have the imprint of the claws at the end of the toes which is not the case with the cat's. Generally the mink travels by hopping or bounding. As a result, the print of two feet shows with one foot slightly ahead of the other. Tracks may also include a slight trail left by a dragging tail.

Winter Squirrel Tactics

The days may be shorter but winter squirrel hunting is long on options.

by Bob Gooch

There is no difference between winter squirrels and fall squirrels, or late summer squirrels, except the winter critters are older, toughter, warier—and more difficult to hunt. And so is the season, cold, often productive of snow and sleet, and not the most inviting time to be in the squirrel woods.

The incurable squirrel hunter will be out there, however, listening to the winter winds rattle the few leaves that stubbornly cling to the oak, beech, and other hardwoods, trying vainly to move silently through the woods as the frost-covered leaves crackle beneath his feet. The winter squirrel woods are stark, often uninviting, and predominantly gray, matching the mood of the season.

The winter days are short. The hunter can rise later and still meet the dawn, but his afternoon hunting time will be more limited.

Both fox and gray squirrels are legal during the winter hunting, but the smaller and friskier gray will be the quarry of most Virginia hunters. The larger fox squirrel is legal only west of the Blue Ridge and in the eastern counties of Fairfax, Fauquier, Loudoun, and Rappahannock.

The winter squirrel hunter enjoys a number of options, a variety of hunting methods.

Stand Hunting

Early autumn seasons that allow squirrel hunters in the woods when Bushytail is busy feeding in the hickory groves have conditioned Virginia hunters to stand hunting. Taking a dawn or dusk stand near a nut-laden hickory tree in late September or early October is a sure invitation to a Brunswick stew. Regardless of how productive this method may be in the fall, it won't work for winter squirrels. The reason is simple. The nuts are gone and there is rarely a concentration of food to make the squirrels congregate.

The stand hunter can enjoy limited, but good, hunting during the winter months by shifting from nut trees to den trees. Ideally, this calls for some scouting to locate dens the animals are using. Binoculars can be helpful in studying holes in oaks or other hardwoods. The ones providing entrances to dens will be well worn, the gray bark scratched and rubbed, and if you look closely you might find some slate gray squirrel hairs. This is the tree you want to take a stand near.

Getting on a stand before dawn on a bitter cold January day can be painful—but productive. Dress warmly, however, and even a winter dawn can be spectacular.

My experience with dawn hunting during the winter is that it can be fast, but limited. The animals seem to emerge quickly from their warm dens and race out to feed in the woods or to water in a nearby creek. Typically, they feed first and then water, but they spend precious little time in the den tree. You have to react quickly and shoot fast if you are going to bag your quarry. I prefer the little .22 caliber rifle for stand hunting, but I suspect a shotgun might be a better choice for the fast shooting the dawn hunting demands.

The hunting can be equally as good in late afternoon, particularly near dusk, as the squirrels head for home from their forays in the forest. They seem to be less frantic then, and move at a more leisurely pace. A squirrel or two may loaf for a few minutes in the limited warmth of the late afternoon sun before heading in for the long winter night. This is the kind of hunting opportunity that seems to have been fashioned for the .22 rifle fan. He can bide his time and choose his shots. I cannot think of any reason for using a shotgun here. The rifle is quieter and less likely to disturb the game, and it gives you more range. You can take a stand well back from the tree and still be within effective range of the little .22.

During the deer and turkey seasons, I wear some kind of blaze orange or red when hunting from a stand. The squirrel's eyes are extremely sharp, but the stand hunter can keep movement to a minimum—and this helps. One way to avoid movement is to be as comfortable as possible. Take along a waterproof seat such as the popular "hot seats" that can be clipped onto the belt for ease in carrying, and rest with your back to a tree.

"Binoculars can be helpful in studying holes in oaks or other hardwoods. The ones providing entrances to dens will be well worn, and the gray bark scratched and rubbed, and if you look closely you might find some slate gray squirrel hairs."

Still-Hunting

As effective as stand hunting is, still-hunting is more of a challenge—and you are not limited to the dawn and dusk hours. The still hunter can spend the day in his favorite woods and realize success at any hour.

Hunters tend to confuse still and stand hunting, often referring to stand hunting as still-hunting. The reason, I suppose, is that the stand hunter does not move—he is still. Still-hunting, however, is an old deer hunting method in which the hunter moves slowly, but stops frequently to look and listen. It is a proven technique that can also be used on squirrels.

The deer hunter attempts to work into the wind—if there is any. He is concerned primarily about his quarry's excellent sense of smell and to a less extent its ears and eyes. The squirrel hunter, on the other hand, cares little about his quarry's sense of smell, but he is concerned about the animal's sharp eyes and keen hearing—particularly its eyes.

Having done a dawn vigil on a stand, I often return to the same woods after a quick breakfast and still hunt. Here again, I wear hunter orange or red during the deer and turkey season. It's a problem, because I'm moving.

The still hunter, irrespective of whether his quarry is deer or squirrels, moves very slowly. He may travel less than a mile in a full day in the woods. There is no reason to hurry. Pick your route, one that offers some cover and

one that permits you to move as quietly as possible, and move about 10 or 15 yards. Concentrate on the walking, picking your path carefully and avoiding piles of leaves or anything else that will create unnecessary noise. Look and listen only when you have paused, and spend a lot of time between the short moves, at least 10 or 15 minutes. You may have disturbed a squirrel while moving, but a feeding one may move into range while you are waiting, one that hasn't located you. And the presence of an unalarmed critter may ease the concern of one you spooked while moving. That's the challenge of still-hunting, matching your woodsmanship against the wary squirrel.

Switching to brown camouflage once the deer and turkey seasons are over will aid you in your battle with the squirrel's excellent vision, and when possible I like to walk with my back to the sun. Like humans, squirrels are handicapped when looking into the sun.

Since the still hunter is often faced with running targets he may want to hunt with a shotgun. If so, use high-brass 4' or 6's and a modified choke.

Float Hunting

To most, float hunting means moving slowly down a wooded stream in a canoe or john boat and watching for squirrels along the banks. Working the shoreline of a lake or sizeable pond could also fit the description, though it is not as popular as floating a stream.

Over the years I have taken as many squirrels as I have ducks on jump-shooting trips down a number of Virginia's streams. Ducks and squirrels make a fine combination as the same method and the same gun and ammunition will take both. The squirrel season is longer, however, and you can hunt squirrels when the season on ducks is closed, in early November and late January, for example.

Subdued tones in both clothing and boats are an aid to floating for squirrels. The animal's sharp eyes can pick you up at a distance as you move with the current of the river. The best approach is to hug the shoreline as much as possible.

I use a canoe for jump shooting the rivers. It's light and easy to maneuver, particularly in rapids or other fast water characteristic of our inland rivers. Mine is made of aluminum. It's tough and bears the dents of untold numbers of boulders that seem to lurk just beneath the surface. It is also noisy, and this is a problem. Canoes built of other materials are quieter.

Squirrels come to the edges of creeks and streams to water, and that is a good place to spot them. Taking advantage of the bends in the streams by hugging the inside curve will help you get within shotgun range.

The use of a rifle of any kind is illegal for this kind of hunting so there is no reason to consider the capabilities of the .22 here. Besides, shooting accurately from a moving and rocking boat with a rifle is tricky at best. Squirrels watering at the water's edge may present fairly easy shots, but some of those high in streamside trees will call for long shots. Add the height of the stream bank to the height of a tall sycamore and you have plenty of range. For such shots a tightly choked shotgun is ideal. The jump shooter is torn between this requirement and the need for a more open choke for ducks. Once the duck season is over, I recommend a full choke.

Bob Gooch

A well placed shot from a .22 rifle brings down a squirrel.

Squirrel Dogs

Hunting winter squirrels with a good dog can be a real joy, but it is one that very few hunters ever take advantage of. Possibly a major reason is that the squirrel hunter enjoys too many other options.

There are two kinds of squirrel dogs: one that trails by scent and the other that hunts by sight. The latter seems to be the most popular. In either case, the dog's job is to locate and tree the squirrel until the hunter arrives. Admirers of the dog that hunts by sight insist that the advantage is that it can follow a squirrel racing through the treetops, whereas the trail hound, relying upon scent, cannot.

The best squirrel dogs seem to be small and of mixed breeds. "Feists" is the word often used to describe them.

An odd thing about squirrels is that they will often freeze when treed by a dog, whereas they usually scamper away when approached by the still hunter without a dog. The hunter's challenge is to locate the motionless animal flattened against a tree trunk or branch, its gray fur blending almost perfectly with the bark.

That is still another challenge of hunting winter squirrels. □

January Journal

Letters

Catfish Supper

These photos were taken at our dock on Lake Gaston. We were sunning on the dock when we observed a commotion on the steep rocky bank a few feet away. It was this snake splashing its way along the bank with the flopping catfish (1) in its mouth. It was almost more than the snake could handle but (2) it wrapped its tail around a root and prepared (3) to eat the fish. This appeared impossible, but a check about three hours later found nothing to confirm success or failure—they were both gone.

G. Stoneburner
Williamsburg

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Marsh Portrait

Thanks for the very generous coverage given to my text for a Marsh Portrait.

For some months, I have been hearing nice things about *Virginia Wildlife* magazine from people who have been reading it for the first time, and enjoying the quality photos, layouts, and varied format.

I wish you continued success.

Ellen Gwynn
Charlottesville

Skyland Cougar

I have read a number of times—including a statement in your magazine—that despite various reports, no one has ever seen a mountain lion in Virginia. Wrong!

In 1968-69 my cousin, Dr. Frank Horsfall, who at that time was with VPI, was working in rodent control in the various orchards around the Shenandoah Valley. He used to camp in Big Meadows with his wife, and come home evenings, and occasionally my husband and I would spend Sunday with them.

We were in the vicinity—but not too close—of Skyland one Sunday going back to Falls Church when we saw the lion on the right hand side of the road. He was—at a guess—three feet long or more excluding his long tail, ears not as prominent as a house

January Journal

cats, (closer to his head), a sleek tawny-colored pelt and a heavy, muscled body. He stood quietly for a moment and then crossed the road and went down the hill. He didn't walk—he flowed. It was beautiful. I've seen mountain lions in zoos and he was a mountain lion.

Several years ago I read a letter in a county paper from a man in that area who claimed to have seen pawprints and droppings he was sure were from a mountain lion, as well as, having heard it scream.

I don't know if he's still there or not, but I hope no one ever shoots him. He was beautiful!

Alice H. Cosminsky
Harrisonburg

Thanks for sharing your encounter with the mountain lion. A number have been reported along the Blue Ridge over the past 25 years or more. No concrete evidence has ever been documented.

We have an official Endangered Species project designed to follow-up leads on cougar sightings. I am forwarding your letter to them for historical background. Some experts feel the sightings are of lions introduced from the west by private citizens. In any event they are completely protected.—Editor

A Gift That Lives Forever

The citizens of Virginia received a welcome gift recently; one, that with proper care and respect, could live forever.

The gift was land, seventy-six acres of it, adjoining the Game Commission's G. Richard Thompson Wildlife Management Area in Fauquier County. This area, now almost 4,000 acres in size, is one of the most popular wildlife management areas in the Commonwealth.

The land was a gift from Mr. and Mrs. Frederick Blumenthal of Washington, D.C. Mr. Blumenthal said he has always admired Thomas Jefferson, who maintained that one should keep the land as it is. It was in this spirit that the Blumenthals entrusted the parcel to the Game Commission.

The G. Richard Thompson Wildlife Management Area, one of the more than 30 such areas throughout Virginia, is enjoyed by sportsmen for three of four months each year and by the general public throughout the entire year. These areas are used for many forms of outdoor recreation; from hiking and bird watching to hunting and fishing.

Virginia Wildlife TV

Public television stations in Virginia will begin airing the Game Commission's new production, "Virginia Wildlife" this winter. The series of 13 half-hour shows will begin as early as December in some areas and as late as March in others.

The programs cover a variety of outdoor subjects ranging from fishing techniques to sight-seeing tips. Some shows feature Commission personnel working in the field with various animals, fish and endangered species. Using a TV magazine approach, each program is divided into fast paced segments with wide viewer appeal. The show is written and produced by Commission TV Producer, Spike Knuth. Lou Hinshelwood operates the sound unit in the field and edits the tapes into finished programs. The Virginia Wildlife video crew has travelled from Abingdon to Virginia's Barrier Islands and many points between to find the variety and wild beauty of the state. The following schedules are firm, in other areas consult local PBS station listings. WCVE-TV, Richmond begins January 6, at 6 p.m. Sunday evenings. WNVC-TV, Falls Church begins January 18, at 6 p.m. Friday evenings. WHRO-TV, Norfolk begins January 12 at 3:30 p.m. on Saturday, 4 p.m. on Sunday and 3:30 p.m. on Monday. The program will run for 13 weeks. □

Hampton Roads Festival

This is the fourth year for Hampton Roads' Waterfowl and Wildlife Festival and promoters expect the affair to be better than ever. Held at the Hellenic Community Center (60 Traverse Road, Newport News), the Festival will be held on Saturday, January 12 and Sunday, January 13.

Expected at the show are exhibits of wood carvings, watercolors, oils, taxidermied waterfowl and stained glass by outstanding artists, carvers and craftsmen from all over the East Coast. Many of the artists are expected to be demonstrating their talents during the festival.

Admission to the festival, which starts at 10:00 a.m. on Saturday and 11:00 a.m. on Sunday, is $3.00 for adults and $1.50 for children under 13. □

About the Authors

We first met **Emily Grey** while she was studying bird feeding preference at VPI & SU. Emily earned her masters there and is currently studying law. Her plans are to practice environmental law. **Mitchell Norman** is one of the Game Commission's fisheries biologists and regional supervisor for southeastern Virginia. **Harry Murray** is a frequent contributor and among his other pursuits, teaches fishing and fly tying in Edinburg, Virginia. Saltmarshes and similar environs seem to be home for **Curtis Badger**. His writing and exciting photographs are eagerly welcomed by *Virginia Wildlife* readers. West Virginian **Terry Kerns** is a former newspaper editor whose articles have appeared in numerous magazines. He holds a degree in biology and was a public relations officer for the West Virginia Department of Natural Resources. **Bob Gooch** is one of Virginia's most prolific outdoor writers. Bob regularly produces outdoor columns, articles and books. □

The Problem With Snakes

A snake, a scream! And a call for help. The Virginia Game Commission and I often receive frantic phone calls about snake problems. Don't panic, there are several things you can do about snakes that you suddenly find sharing your space. Here they are, along with some ideas to keep them away from your property.

There are several things you can do to reduce the chances of a snake appearing in your yard or house. A snake-proof fence can be erected around the premises. Fences (2-3 feet high) can be made of screen or aluminum flashing. These are buried in the soil about 3-4 inches and angled outward about 30 degrees. Snakes encountering the fence will follow it along the ground. They can be directed away or simply prevented from entering the enclosed area. Where snake food and cover are found, snakes are likely to be found also. Thus, all cover, such as boards, firewood, hay and flat rocks, should be removed and the area kept free of high vegetation.

Those snakes entering houses usually do so through small openings in ground-level windows, doors and pipe drains. Checking for and closing all possible entryways that are as small as 1/8-inch in size may be difficult but can be done. Some snakes may be caught before they enter the house by setting funnel traps made of screening along walls around the building. Once caught, the snakes can be safely removed.

When you do find a snake in your yard or house, then what? The most important first step is to identify the animal. If it is not venomous, then your stress level should be reduced. The snake can be caught by placing an inverted jar or box over it, sliding a piece of cardboard under the opening, then righting and closing the container. By far most of the snakes found in houses are small ones and can be caught this way. Large snakes pose slightly different problems but may also be caught with this method. The snake can be released outside away from the premises. If the snake is venomous (be sure you know how to identify the venomous species in your area), you can use the same technique of removal, but with added caution. Remember, snakes cannot strike more than half their body length. So, if you remain more than a full body length away, you'll not be bitten. Snakes also can be picked up with a hook or tongs and taken outside. But what if you saw the snake one minute and lost it the next? Just wait until it appears again and catch it. If it can find a way out on its own, it will do so. Otherwise, the only way to solve the problem is to physically remove it. Remember, most snakes found in houses are small and harmless.

I have said nothing about killing the animal. Non-venomous snakes should never be killed for any reason. All snakes play important roles as predators in Virginia's natural communities. I recommend that venomous snakes be killed only as the last resort. They should be removed to areas away from human habitation. Many people do kill snakes, however, and this has been a means by which entire populations have been removed from human-inhabited areas.

The use of chemicals for outside controls or inside fumigants is not recommended nor effective. Houses can be fumigated but only very toxic chemicals, which can also kill humans, produce results. If the snake is killed in the house, it must be located and removed, or else the odor of its decomposing body will cause additional problems.

There are several places you can call about snake problems. The Game Commission, agricultural extension agents and zoology faculty receive calls every year. Remember, however, that it is almost impossible to identify a snake over the phone. If you know the correct identification ahead of time, then solutions (based on snake size and whether it is harmless or not) can be more easily found. Also keep in mind that it is very difficult for a professional to drop what he is doing and spend his time and money driving out to look for a snake. More often than not the snake will not be there anyway. Of four calls that come immediately to mind, only one resulted in the capture of a snake and this one had been pinned down by the caller. I know of no governmental service which sends people out on snake calls. Either the caller must deal with the problem himself or find a friend to help him out. I can only suggest that solving the dilemma of having a snake in the house or yard and being too frightened to deal with it, is to seek help from someone who is willing to help.

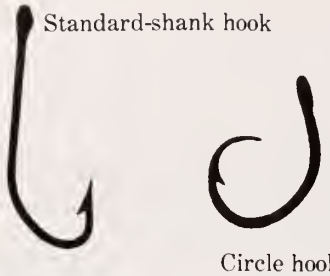
For additional information on snakes write the Game Commission or the Virginia Herpetological Society (Laura Crews, VaHS Secretary, 412 Dunmore Drive, Newport News, Virginia 23601).

by Dr. Joseph C. Mitchell

January Journal

The National Scene

Every few years the U.S. Fish and Wildlife Service publishes a book. The first was *Waterfowl Tomorrow*. This proved to be an unqualified success. They followed it with another, *Sport Fishing USA*. Another winner. Now they are out with the best one of all. Called *Flyways* this book documents the pioneering of waterfowl management in North America. It is a hard book to put down if you like waterfowl, biology, adventure and humor. There is a whole lot of reading in its 500 pages, and we are still working on our copy. If you would like one, it is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The price is $17.00 and your check must accompany your order. Stock number is 024-010-00653-6; Idaho, Montana and Oregon are concerned over their bighorn sheep. There has been a mysterious die-off of bighorns in the Hells Canyon area of the Snake River, on the Idaho-Oregon border. A dozen sick or dying animals have been observed. So far no cause has been determined. All of the affected animals were at least eight years old, near the maximum for bighorns. The North American Bighorn Sheep Foundation is funding the investigation. Last year, a pneumonia outbreak in Alberta wiped out 70 percent of a bighorn herd, and soon after the disease crossed the border and claimed bighorns in the adjacent Glacier National Park. Montana has also reported loses in herds along the state's Rocky Mountain front. Montana's biologists reported poor body condition, combined with pneumonia and a high infestation of lung worm, could have caused the losses; Congress has passed a bill that in effect says if the states will not cooperate and implement the Mid-Atlantic Fishery Council striped bass plan (reduce catch by 55 percent) a moratorium imposed by the federal government will be placed on noncomplying states; a brown trout, weighing 34-pounds, 6-ounces, was



caught in Michigan last May, claiming a new world record for the species. The big trout was caught trolling in Bar Lake, Arcadia. It hit a Cop-E-Cat Spoon and was landed on ten pound test line; the Coast Guard's Boating Safety Circular 59 offers some serious food for thought. According to the circular, our gas contains more alcohol than we realize. It says "super unleaded" and "unleaded" gas may be a blend of ethanol (ethyl alcohol aka "grain alcohol") and gasoline. The danger is the alcohol attacks the rubber fuel hoses and even the metal components in the fuel system. Nitrile rubber fuel hoses, the most common fuel hose material used for a number of years, suffers increased swelling and elongation when soaked in alcohol-gasoline blends. Alcohol will permeate most fuel hoses currently being installed on boats. It will pass clear through the hose! The caution goes on and on and the problem is well worth looking into; Texas has recently passed a law requiring the use of circle hooks on all trotlines. The hooks, which feature a radical bend and extremely short shank, are also known as tuna hooks, Japanese snapper hooks, or simply circle hooks. Offshore fishermen in Texas have found them to be extremely effective in deep water angling for red snapper and larger fish, such as tarpon. The hook was made mandatory because fishermen report hooking virtually all their fish in the lip with circle hooks, and it is extremely rare that a fish is hooked it the gills, throat or stomach. Another reason is because of the overall effectiveness of the hook design. Fish hitting circle hooks tend to be hooked cleanly, and the hook remains in place even with fish caught on trotlines; Louisiana has recently licensed its salt water fishermen. They also recently reduced the daily limit for spotted seatrout and red drum. It is a generous limit, however—50 fish in aggregate. In a related action the state legislature passed a law requiring a $100 license for any resident angler who sells his catch. The license fee is $400 for nonresidents.

by Jack Randolph

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NWF Seeks Lead Shot Ban on Refuges

The National Wildlife Foundation last month petitioned the U.S. Fish and Wildlife Service to ban the use of lead shot—and require the use of steel shot—on 22 national wildlife refuges in 11 states during the 1985-86 waterfowl hunting season. On each of these refuges, waterfowl have died from lead poisoning after ingesting spent lead shotgun pellets. The refuges include Kesterson, Merced, Sacramento, Salton Sea, San Luis and Sutter in California; Klamath Basin Complex between California and Oregon; D'Arbonne in Louisiana; Benton Lake and Charles M. Russell in Montana; Stillwater in Nevada; Umatilla between Oregon and Washington; Lacreek and Sand Lake in South Dakota; Missisquoi in Vermont; Chincoteague in Virginia and Willapa in Washington. While this petition seeks to reduce primarily *waterfowl* deaths from lead poisoning, another petition filed by NWF this summer sought primarily to stem the lead poisoning deaths of bald eagles. □

Delmarva Fox Squirrel

Is the big steel gray squirrel coming back to Virginia's Eastern Shore? Biologists from the Virginia Game Commission spent two weeks this past November in an attempt to answer this and other questions about the Delmarva fox squirrel.

The Delmarva fox squirrel is considered endangered in this part of its former range and efforts are being made to re-establish the squirrel on the Eastern Shore. As part of this effort, fox squirrels were transplanted two years ago from the Chincoteague National Wildlife Refuge to the Nassawaddox area of the Shore.

Baiting around 40 traps began in October. Biologists used corn, apples and pecans to lure the squirrels. Actual trapping was accomplished from November sixth through the 16th. The trapping operation netted five fox squirrels. Two of the squirrels were a male and female that were members of the original group from Chincoteague. One squirrel was a male that had been recorded as young of the year last winter. The remaining two, both females, were born in the trapping area this year. All five squirrels were in excellent condition and were released unharmed after being weighed and marked.

The Delmarva fox squirrel was once well distributed from extreme southeastern Pennsylvania down to the Delmarva Peninsula to Southampton County, Virginia. It is now probably confined to the Maryland counties of the Eastern Shore, with its population centered near Blackwater National Wildlife Refuge.

The reasons for its decline are not easily determined. At first, biologists blamed it on overshooting, and this squirrel was placed on the protected list (though few hunters could identify it). And in Maryland, special refuges were established just for it. But it has not responded with any increase in numbers. It is now protected by a closed season in Virginia.

A more likely cause has been the destruction of its habitat. This squirrel prefers large, mature stands of loblolly pine or open white oak and gum swamps. Few tracts of mature timber remain anywhere within its range. Another factor, corollary to the loss of habitat, is increased competition from the gray squirrel. The smaller species adapts readily to cut-over areas and is even at home in residential sections. □

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KNUTH

Bird of the Month

The Hardy Horned Lark

I was traveling the backroads of central Hanover County, scouting out some potential hunting areas. Late-August temperatures generally dampen my enthusiasm for thinking of hunting, yet browning corn, plus a dash of red in the sumacs were encouraging signs that the time was drawing near. As I drove into one area that I had been invited to hunt in, I noticed a number of birds flushing from along the dirt roadside which ran through flat, open farmland which reminded me of the Midwest. After a time I realized there was something familiar about these birds, something which also reminded me of the Midwest.

I've always associated horned larks with cold, windswept prairies or prairie-like habitats. But here, in front of me, were horned larks—in the heat of a Virginia summer! Actually, this wasn't the first time I had seen or heard horned larks in Virginia. Their twinkling, twittering call is not uncommonly heard in the colder months, drifting across open fields—especially at evening—from Virginia Beach and Eastern Shore to central Virginia and Big Meadows in the Shenandoah National Park. I'm sure they are fairly common in many other areas as well.

The northern horned lark is a brownish ground bird with black cheek patches and a black breast patch. It is named for the two little feather tufts on either side of its head which resemble horns. The horned lark is a little larger than a sparrow—about bluebird size—and walks or runs nimbly on the ground rather than hopping. It measures about 7 inches in length with pinkish to grayish brown upper parts and wings, and whitish or buffy-gray under parts. The front of its forehead and stripe over its eye is pale yellow and it has a yellow throat. Its central tail feathers are grayish-brown with the outer feathers being black, narrowly edged in white. The female is similar but duller. Another species, the prairie horned lark, has a white strip over its eye and is generally lighter colored.

Horned larks rarely alight in trees or bushes, and then it is a very low growing plant. They run about on the ground, occasionally perching on rocks or a dirt clod in a field. Its flight is erratic or hesitant. That is, it takes flight quickly, and after a few quick wing beats it closes its wings allowing its body to fall a bit before picking up the beat again. It also flies and dashes from side to side on an erratic course. They will often take flight and return to the same spot. Horned larks are almost always found in small scattered flocks except during nesting.

Among its many local names are winter lark, snow lark, shore lark, prairie bird, wheat bird, spring bird and life bird. These names all reflect on the bird's habits and habitat. They are hardy birds that frequent open country, especially in the winter months. Horned larks may be found from the prairie and wheat fields of the Midwest to the salt marshes and beaches of the Atlantic Coast. Open lakeshores of large freshwater lakes also host horned larks. I've seen them from the window of a 737 at Byrd Field in Richmond as we taxied for takeoff. They are also the first songbird of spring to begin nesting—to come to life or begin to renew life so-to-speak.

Horned lark courtships begin early, while snow and cold still grips much of its habitat. The males will ascend to considerable heights to sing while on the wing. One winter day as I came out of a 7-Eleven store in eastern Hanover County, I heard a twinkling, gurgling call from high in the sky. I spotted the bird with wings spread and tail fanned, fluttering weakly but singing with all its might. At other times they utter short whistled notes when taking flight, or what is best described as a "long, quiet, tinkling twitter" that "seems to come out of nowhere."

Horned larks are found in almost all parts of North America at some time of the year except the extreme southeastern U.S. Central America, southern Alaska, and the Aleutians. It nests on the ground in grass tufts, usually building it long before the snow is gone in its more northerly haunts. The nest is a depression in the ground of grasses and feathers. They may have two or more broods in a year and will renest if their first attempt is destroyed by late winter storms.

The three or four young will first feed on insects, but soon turn to a basic diet of tiny grass and weed seeds. Horned larks feed commonly in freshly plowed fields, pastures, meadows, large open parklands, stubble fields and along roadsides. About 79 percent of their diet is vegetable matter, the remainder is insects.

There are two main species, but its family is made up of 21 varieties or subspecies. While they may breed in localized areas, they tend to mix during winter migrations and wanderings. In winter they seek out wind swept fields where grain, grass and weed seeds are available. They winter over most of the U.S., especially from the prairies, through the Great Lakes and Mississippi Valley to the Carolinas. □

by Carl "Spike" Knuth